

CLAIMS

What is Claimed is:

1. A method of dynamically controlling output voltage slew rate in a power
5 converter, comprising:
 electrically connecting a controller to at least one power converter having
 a plurality of pins, said plurality of pins comprising at least a slew-rate-control pin;
 transmitting a dynamically adjusted slew-rate signal to said slew-rate-
 control pin; and
10 adjusting the output voltage slew rate of said at least one power converter
 in response to said slew-rate signal.
2. The method of Claim 1, wherein said plurality of pins further comprises a
trim pin and said step of transmitting a dynamically adjusted slew-rate signal further
15 comprises transmitting a dynamically adjusted slew-rate signal to an external transistor
electrically connected to said trim pin.
3. The method of Claim 1, wherein said plurality of pins further comprises:
 a trim pin; and
20 a control pin electrically connected to said trim pin via an internal error-
amplifier circuit, said dynamically adjusted slew-rate signal being transmitted to
said control pin.
4. The method of Claim 3, wherein said step of transmitting a dynamically
25 adjusted slew-rate signal further comprises transmitting a series of voltages to said
control pin.

5. The method of Claim 3, wherein said step of transmitting a dynamically adjusted slew-rate signal further comprises transmitting a series of currents to said control pin.

5 6. The method of Claim 3, wherein said step of transmitting a dynamically adjusted slew-rate signal further comprises transmitting a series of charges to said control pin.

10 7. The method of Claim 3, wherein said step of transmitting a dynamically adjusted slew-rate signal further comprises transmitting digital signals to a digital potentiometer via said control pin.

15 8. The method of Claim 1, further comprising the step of monitoring the slew rate of an output voltage of said at least one power converter by receiving said output voltage via an output pin

20 9. The method of Claim 1, wherein said step of adjusting the output voltage slew rate further comprises adjusting said output voltage slew rate in response to the magnitude of said slew-rate signal and the rate at which said slew-rate signal is being dynamically adjusted.

10. A system for dynamically controlling output voltage slew rate of a power converter, comprising;

a controller; and

a power converter electrically connected to said controller, said power

5 converter comprising:

an error-amplifier circuit adapted to adjust an output voltage of said

power converter;

a trim pin electrically connected to said error-amplifier circuit; and

10 a slew-rate circuit electrically connected to said error-amplifier circuit, said
slew-rate circuit adapted to receive a slew-rate signal from said controller and
use said error-amplifier circuit to adjust the slew rate of said output voltage in
accordance with said slew-rate signal.

11. The system of Claim 10, wherein said slew-rate circuit further comprises a
15 transistor electrically connected to said error-amplifier circuit via said trim pin.

12. The system of Claim 10, wherein said power converter further comprises a
control pin electrically connected to said error-amplifier circuit via said slew-rate circuit.

20 13. The system of Claim 12, wherein said slew-rate circuit further comprises a
operational amplifier.

14. The system of Claim 12, wherein said slew-rate circuit is further adapted
to receive a voltage from said controller via said control pin.

25 15. The system of Claim 13, wherein said slew-rate circuit is further adapted
to receive a current from said controller via said control pin.

16. The system of Claim 12, wherein said slew-rate circuit is further adapted to receive a charge from said controller via said control pin.

17. The system of Claim 12, wherein said slew-rate circuit further comprises a
5 digital potentiometer.

18. A system for dynamically controlling output voltage slew rate in a power converter, comprising:

a controller;

10 a power converter electrically connected to said controller, said power converter comprising:

a trim pin adapted to receive a trim signal;

a control pin electrically connected to said controller and adapted to receive a slew-rate signal;

15 a slew-rate circuit electrically connected to said control pin and adapted to produce a dynamically-adjusted signal in response to said slew-rate signal; and

20 an error-amplifier circuit comprising an operational amplifier and electrically connected to said trim pin and said slew-rate circuit, said error-amplifier circuit adapted to adjust an output voltage of said power converter over a relatively small range in response to said reference voltage and adjust said output voltage of said power converter over a relatively large range in response to said dynamically-adjusted signal.

25 19. The system of Claim 18, wherein said slew-rate circuit further comprises a second operational amplifier.

20. The system of Claim 18, wherein said slew-rate circuit further comprises a digital variable resistor.